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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/416,098	10/12/1999	TERESA H. MENG	259697	5713

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EXAMINER	
LIU, SHUWANG	
ART UNIT	**PAPER NUMBER**
2634	6

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/416,098	MENG ET AL.	
	Examiner	Art Unit	
	Shuwang Liu	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *3,6,7,10-14,17,20,21,24-28,30,32 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,8,9,15,16,18,19,22,23,29,31,34 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 October 1999* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Claims 3, 6, 7, 10-14, 17, 20, 21, 24-28, 30 32 and 33 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Drawings

2. The drawings (figures 2, 4, 7 and 8) are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the offset in a second signal to be transmitted by the second unit" as recited in claims 1, 15, 34 and 35 and "means for performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency" as recited in claims 9 and 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Clarke et al. (US 5781847).

As shown in figures 1 and 3, Clarke et al. discloses a device adapted to be used in a first unit (receiver, 20 and 40) that can communicate with a second unit (transmitter, 10a or 10b) using a common carrier frequency (abstract), the device comprising:

a frequency lock loop (60 and 24 a or 24 b in figure 3) that is coupled to receive a digital representation of a first signal transmitted (column 5, lines 12-15) by the second unit (transmitter), the frequency lock loop being adapted to detect a carrier frequency offset in the first signal and to produce offset information corresponding thereto (column 7, lines 17-20 and column 11, lines 22-35); and

a frequency shift block (13a or 13b) that is coupled to receive the offset information and data to be transmitted by the first unit (receiver) in a second signal to be received by the second unit, the frequency shift block being adapted to digitally shift the data in frequency in accordance with the common carrier frequency and the carrier frequency offset so that the effects of the carrier frequency offset to be perceived by the second unit will be substantially reduced (abstract, column 5, lines 26-34, column 7, lines 17-23 and column 11,lines 42-60).

5. Claims 1, 2, 4, 5, 8, 15, 16, 18, 19, 22, 34 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al. (US 5,982,809).

As shown in figures 1 and 2, Liu et al. disclose a device an a method to be used in a communication system in which a first unit (transmitter) communicates with a second (receiver) using a common frequency (ω_0 carrier frequency) (column 6, lines 1-23), comprising:

(1) regarding claims 1, 15 and 35:

means (38 and 33) for detecting an offset (44, $\delta\omega_0$ see column 6, lines 35-44) between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by second unit (column 7, lines 55-65); and

means (36, 34 and 33) for adjusting the common frequency in accordance with the offset (44) in a second signal to be transmitted by the second unit (by 33 in the second unit) and to be received by the first unit (by 64 in the first unit) so that the effects

of the offset to be perceived by the first unit will be substantially reduced (abstract).

Furthermore, the device comprising:

means (28 and 34)for communicating information corresponding to the detected offset from the second unit to the first unit as recited in claim 35.

(2) regarding claim 34:

means (38, 33 and 46) for detecting an offset (44, $\delta\omega_0$ see column 6, lines 35-44) between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by second unit (column 7, lines 55-65);

means (28 and 34)for communicating information corresponding to the detected offset from the second unit to the first unit; and

means (36, 34 and 33) for adjusting the common frequency in accordance with the offset (44) in a second signal to be transmitted by the first unit (by 64 in the first unit) and to be received by the second unit (by 33 in the second unit) so that the effects of the offset to be perceived by the first unit will be substantially reduced (abstract).

(3) regarding claims 2 and 16:

wherein the common frequency is a carrier frequency (ω_0).

(4) regarding claims 4 and 18:

wherein he means for detecting the offset includes means (46) for performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency (column 3, lines 13-19).

(5) regarding claims 5 and 19:

wherein the means for adjusting the common frequency includes a means (33) for digitally shifting data in frequency to be transmitted in accordance with the carrier frequency and the offset.

(6) regarding claims 8 and 22:

wherein the means for detecting the offset includes means includes means (33) for locking onto the offset in the carrier frequency and for producing an output signal corresponding thereto.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (US 5,982,809) in view of Theus et al. (US 5,805,029).

Liu et al. discloses all of the subject matter as described above except for specifically teaching means for variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal generated by the locking means as recited in claims.

Theus et al. teaches a digital adjustable crystal oscillator (1 and 2 in figures 1 and 4).

It would be desirable to use a crystal oscillator in order to provide frequency changes over a greater frequency range while still providing stable oscillation (column 1, lines 46-49, Theus et al.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the crystal oscillator as taught by Theus et al. to replace the digital oscillator 34 of Liu et al. in order to provide frequency changes over a greater frequency range while still providing stable oscillation.

8. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke et al. (US 5,781,847) in view of Theus et al. (US 5,805,029).

As shown in figures 1 and 3 and described in item 4 above, Clarke et al. discloses a frequency lock loop (60 and 24 a or 24 b in figure 3) and a variably adjustable device (13a or 13b) as recited in the claim.

Clarke et al. discloses all of the subject matter as described above except for specifically teaching a crystal oscillator that supplies a reference frequency for modulating a second signal to be perceived by the second unit in accordance with the common carrier frequency.

Theus et al. teaches a digital adjustable crystal oscillator (1 and 2 in figures 1 and 4).

It would be desirable to use a crystal oscillator in order to provide frequency changes over a greater frequency range while still providing stable oscillation (column 1, lines 46-49, Theus et al.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the crystal oscillator as taught by Theus et

al. to replace the oscillator 12a or 12b of Clarke et al. in order to provide frequency changes over a greater frequency range while still providing stable oscillation.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Shuwang Liu
Primary Examiner
Art Unit 2634

June 6, 2003